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ABSTRACT

This report describes an action research project improving student academic reading achievement. The targeted population consisted of fifth grade students in a growing suburb of a major midwestern metropolitan area. The evidence for existence of the problem included student surveys, assessments, teacher observations and checklists. Analysis of probable cause data revealed some students were not motivated to meet or exceed expectations in reading comprehension on classroom assessments, district tests, and state evaluations. The lack of students' skills to read strategically and for better comprehension was observed by the teacher. A review of solution strategies suggested by knowledgeable others, combined with an analysis of the problem setting, resulted in the selection of two major categories of intervention: multiple intelligences strategies, and guided practice of reading skills. Post-intervention data indicated an increase on reading skill tests, improved motivation to read, increased on-task behavior, and improved cooperative learning skills used with multiple intelligences strategies. (Contains 22 references and 3 tables of data.) (Author/RS)

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IMPROVING STUDENT ACADEMIC READING ACHIEVEMENT THROUGH THE USE OF MULTIPLE INTELLIGENCE TEACHING STRATEGIES

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An Action Research Submitted to the Graduate Faculty of the School of Education in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Teaching in Leadership

Saint Xavier University & SkyLight

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A review of solution strategies suggested by knowledgeable others, combined with an analysis of the problem setting, resulted in the selection of two major categories of intervention: multiple intelligences strategies, and guided practice of reading skills.

Post intervention data indicated an increase on reading skill tests, improved motivation to read, increased on task behavior, and improved cooperative learning skills used with multiple intelligences strategies.

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CHAPTER 1

PROBLEM STATEMENT AND CONTEXT

General Statement of Problem

Students in targeted fifth grade classrooms within the middle-to-low socio-economic Midwestern community exhibited a lack of reading comprehension and low academic achievement in core curriculum subjects. Evidence for existence of the problem included student surveys that provided an indication of students' choices of reading material and attitudes toward reading, assessments that indicated the level of students' academic performance, teacher observations and checklists.

Immediate Problem Context

The school building was one level building with self-contained classrooms. The enrollment at the school was approximately 840 students. Of the 840 students, 44% were Caucasian, 27% African American, 24% Hispanic, and 3% Asian or Pacific Islander. There were 30 classroom teachers averaging 15 years experience, and 50% had advanced degrees. There were 8 support personnel and 2 administrative personnel. The curriculum was designated around Illinois State Standards. The funding per student was $3,600, and the average teacher's salary was $49,000 per year. The building of the school was

located in a middle to upper middle class area of the community.

The school was well maintained with new lights and carpet. Although the school had a supportive staff, supportive patents, and well-behaved students, there were issues of overcrowding, integrated bilingual students, and the need for the transitional classroom.

The Surrounding Community

The population of the community in which the school was located changed over the past 15 years. The population almost doubled. In 1986, the community had about 39,000, and by 2002, the U.S. Census reported the population at approximately 61,000. The ethnic make up of the community was 58% Caucasian, 20% African American, 13% Hispanic, and 9% other.

The median age of the citizens was 31 years of age. The gender make up was 28,000 males and 28,200 females. The average income per household was $61,000 per year. There were 6,700 new homes built since 1986.

Industrial and commercial growth impacted the community greatly with the amount of new business licenses, an increase of 305%, and 17,000,000 square feet of new industry was constructed. The community had another 16,000,000 square feet still available for future growth. This impact created 19,000 new jobs.

With that type of growth in residential; and commercial areas, specific issues such as traffic, crime, and tax increases were created. The community had to take control of these issues to keep the area safe and under control. There were many things done to improve these issues over the years to achieve safety and control within the community.

The community increased the number of traffic lights to help control the smoothness of travel.

There were also lane expansions created in more heavily traveled areas of town. These improvements had also helped the percentage of accidents that had taken place throughout the town.

To improve and control crime within the community different programs were introduced to help keep the citizens more well informed. They created public crime awareness programs such as the Citizens Police Academy, the Neighborhood Watch Program, and the C.O.P.S. program. These were popular and effective programs that lowered the amount of crime within the community. Finally, because of the residential, industrial, and commercial growth throughout the community, the property taxes for the community decreased dramatically.

National Context

The National Institute of Child Health and Human Development (NICHD) was created in1965. Its major function was to conduct research in reading development. After 20 years of research, the clear factual conclusion that extensive reading difficulties exist became evident to the general public, and in 1985 the Health Research Extension Act resulted. This act charged the NICHD to conduct long-term prospective and multidisciplinary research into the area of reading deficiencies.

Along with these conclusions, the National Reading Panel reported that a combination of teaching phonics, using diverse instructional strategies, and giving feedback on oral reading were the most effective ways to teach reading. The targeted fifth grade students demonstrated low academic achievement in core curriculum material. These low reading scores appeared to be the consequence of inadequate interpretation skills and strategies needed to understand the context.

Reading affects all areas of one's life from childhood to adulthood. As reported by NICHD, 40% of the population have severe reading problems that hinder their enjoyment of reading. Reading problems, if not addressed, do not diminish over time. Such reading problems often continued into adulthood because the right interventions had not been made to change the level of difficulty individuals had in reading. A 20% cutoff was put into effect to begin labeling individuals as disabled in basic reading skills. The main difference between those considered disabled and poor readers is based on the severity of the reading problem.

The effects of reading deficiencies are vast. It is a difficult task to separate disabilities and poor readers. The NICHD found the inability to decode single words was the most reliable indicator of reading deficiencies. On the other hand, the need to compare reading ability to general academic performance is necessary. Listening comprehension, verbal expression, mathematics, and written expression are the other areas in need of exploration. Relying on intelligence or achievement is not considered a key element when labeling a person reading disabled.

Poor self-concept is another effect of poor reading abilities. According to Gambrell (1996), individuals with a low self-concept spend less time reading for enjoyment. Therefore, the responsibility falls on the teachers and authority figures in each individual's life. If teachers and other influential people spend more time helping those individuals choose books they will be interested in, the more motivated readers they would become.

Furthermore, it is suggested that if those individuals with reading difficulties do not learn to communicate ideas and perspectives to read, write, calculate mathematically, or use

reason to solve problems, opportunities for fulfillment and a rewarding life can be seriously compromised.

In conclusion, several studies have discussed the reasons and issues for reading deficiencies; for example, lack of life experiences, unknown strategies and reading skill deficiencies, and discouragement towards reading affect a student's willingness to read. However, there are many ways to motivate the desire to read. It is the responsibility of the educator to find strategies and methods to meet the unique needs of all readers. The student will become a more developed and efficient reader when teachers learn to motivate through techniques that meet individual values, needs, or desires of the reader.

CHAPTER 2

PROBLEM DOCUMENTATION

Problem Evidence

Many students in the targeted fifth grade classroom were not motivated to meet or to exceed expectations in reading comprehension on classroom assignments, district tests, and state evaluations. The students did not meet or exceed assignment requirements, engage in self-reading materials, demonstrate a foundation of reading strategies, self-correct fluency, vocabulary, and comprehension strategies, or use higher-order thinking skills to respond to open-ended questions.

In order to document the lack of reading comprehension in the classroom, district and state data were collected and studied to indicate achievement levels. In connection with student scores motivation was assessed through surveys, checklists, classroom assessments and observations over a period of fifteen weeks. School goals required classrooms to meet a 90% proficiency rate on district evaluations quarterly.

The student surveys showed 4 of 26 students who chose reading as a favorite free time activity. The survey showed 7 of 26 students who regularly went to the public library, and 16 of 24 students who "sometimes" read with their parents.

Academic assessments showed below district expectations and 27% scored below grade level on state evaluations. 4 students in a class of 29 earned a D grade on their

report card. Many students did not exhibit ease of use of comprehension skills on higher level thinking skills in oral discussions and on written essays.

Observations by the teacher showed many students uninterested in independent reading. When given a designated silent reading time, many students seemed to change books often, and worked on homework instead of reading. Opportunities for reading were available in the classroom library, and in the school's library where students were able to check out brooks weekly. The bookmobile came to the school monthly, for students to check out books. At least 50% of the borrowed books were not read. The books remained on the coat rack until they were due.

Probable Cause

There are many reasons to try to explain why students were not motivated to meet or exceed expectations in reading comprehension on classroom assessments, district tests, and state evaluations. The lack of necessary skills to self-select reading materials, not relating that material to their own lives, lack of strategic reading skills, and the changing demographics of families and the community apparently played a part in the problem.

The lack of necessary skills to self-select reading materials was a problem for the targeted fifth grade students. The students needed to be taught the skills to enable them to choose appropriate materials for themselves. Reading the back cover of a book or choosing topics that interested them was a difficult task for them to master. After weeks of practice the students self-selected materials that were at their reading levels and that had a connection to their own lives. The importance of this skill will be important in their school careers and throughout their lives in general.

Many students did not see the relevance of the material being studied or were

unable to relate the material to events in their lives. The curriculum did not focus on the connections real life experiences the students had in their lives. The students needed to focus on reading as a true learning experience rather than just another assignment. Students needed to share things they had done that were related to materials they studied. Through this process true learning would occur.

By the time students reach fifth grade teachers expect them to have the skills needed to read strategically for better comprehension and transfer. Unfortunately this was not true for all targeted students. The lack of strategic reading skills caused many students to not participate in class or test well. The need for students to learn and practice strategic reading skills is essential to their reading experiences.

The changing demographics of the family and community often determine the effects on the students' learning capabilities. Many new students entered the district at different ability levels. These levels of ability may have been influenced by their family situations or the lack of resources the school had to offer because of the unanticipated growth within the community. Many outside factors affected how students performed in areas of the curriculum, but showed mostly when it came to reading.

Successful readers are active learners. These students engage in metacognitive activities that give them understanding of text. They possess and use pre reading and post reading strategies. While reading, however, many students lack knowledge and strategies and tend to be inattentive, passive, and disorganized. These characteristics may be related to their failure to comprehend what they read (Collins, Dickson, Simmons, & Kameenui, 1994).

Other students may need further development with literacy skills. They need

instruction and guidance to decipher different types of reading text, and the different purposes for reading such materials (Templeton, 1991). The development of implicit and explicit skills is important to a struggling reader. They may need implicit modeling to show reading of the text, understanding the meaning of the text, and the purpose for reading such information. They may need explicit modeling to show how to tackle the reading task, or the students may be deficient in both areas.

Many students lack the motivation and engagement it takes to comprehend text. Intellectual growth and development are stimulated by how students are taught. Students' attention and interests have changed over the past four decades. Today, television, videos, virtual reality games, computers, and other technological advancements surround students. These devices have changed the world irrevocably. For the most part, the engagement in the classroom learning has not kept up with these innovations (Lumsden, 1999).

Students may possess the need for diversified instruction. Gardner (1996) suggested that students' intelligence is the product of their culture. Students may have different building blocks of intelligence that give them the ability to solve problems (Laughlin, 1999). These students may need to manipulate subject matter through multiple senses to achieve maximum comprehension.

There are several underlying causes for reading deficiencies across the curriculum. According to the National Institute of Child Health and Development (NICHD) research almost half of the population have reading difficulties severe enough to their enjoyment of reading (Grossen, 1997). The majority of students must possess a strong knowledge base that encompasses the skills and strategies necessary to read,

comprehend, and apply text across the curriculum and throughout the many facets of their lives.

CHAPTER 3

THE SOLUTION STRATEGY

Literature review

After reviewing the literature concerning the lack of students' to meet or exceed expectations in reading comprehension on classroom assessments, district tests, and state evaluations, research suggests several key strategies for increasing the students' interests, abilities and motivations. The researchers of this project focused on phonics skills, the engagement of individuals in the learning process, the theory of multiple intelligences, and metacognition to improve reading achievement.

Reading has been and will always be the basis for every child's learning. It has been the main educational focus for more than 100 years (Samuels & Kamil, 1984) The two most important components of reading instruction are the teaching of phonics skills and the development of comprehension strategies. These two components provide the foundation for producing effective and successful readers.

Phonics taught with a skill-based approach was encouraged by Jeanne S. Chall (Snow, Bureno & Griffin, 1998). In 1967, Chall identified and concluded that there are successful programs that included systematic phonics strategies (Snow, Burns, & Griffin, 1998). Phonics is the teaching of letter sound relationships taught in a regulated approach (Diegmueller, 1996). According to Kenneth S. Goodman, a leader in the structure and

understanding of language, phonics is learned when students are saturated in reading. Therefore, students learn to figure out words by their own understanding (as cited in Samuels & Karmil, 1984).

In 1996, Marilyn J. Adams enhanced Chall's conclusions with her research in the book, Beginning to Read: Thinking and Learning About Print. Chall and Adams concluded that beneficial reading instruction depends on regular specific phonics lessons and extensive opportunities using a variety of reading materials (as cited in Snow, Burns, & Griffin, 1998).

According to North Central Regional Educational Laboratory, phonic skills are introduced with sound-letter relationships learned first, followed by understanding. Teaching regularly scheduled phonics skills is essential for students' reading development. If students lag behind, without elaborate intensive remediation to renew lost growth, each month and each year has proved that they fail (Rashote, Torgesen, &Wagner, 1997). The connections between phonics and "sight word" reading skills emphasize that phonetic reading skills are essential for memory of spelling and are the foundation for sight word knowledge (Ehri, Share, & Stanovich, 1995).

Experts agree that students' needs are very different than ever before. What held students' attention forty years ago is not going to keep today's students motivated and involved in classroom learning (Lumsden, 1999). It is a fact that television, videos, computers, and other technological advances have changed and altered the world significantly and irrevocably.

For the purpose of this study, the researcher defined motivation as the engagement of an individual in the learning process. The definition for engagement is the

ability for one's work to stimulate curiosity, one's persistence in work despite challenges and obstacles, and one's visible enthusiasm in accomplishments (Strong, Silver, & Robinson, 1995). Many factors affect a student's motivation to work and to learn: interest in the subject matter, perception of its usefulness, and general desire to achieve. Along with the stated factors, self-confidence and self-esteem are important characteristics of one's character to maintain motivation (Gross-Davis, 1999).

There is little, if any, disagreement between the expert researchers as to the factors previously discussed. However, the controversy over intrinsic and extrinsic motivation, on which theories of educational motivation have been established, is often debated (Strong, Silver, & Robinson, 1995). For the purpose of this research project, extrinsic motivation is defined as using external motivators, such as grades or stickers. On the other hand, intrinsic motivation is defined as something that comes from within. An example of this would be self-gratifying, such as a job well done.

The researcher of this action project believed motivations to be a part of the problem instead of the solution. It has also been revealed through research that highly motivated individuals posses both types of motivation (Gross-Davis, 1999). Student motivation seems to be at an all time low. Researchers have begun to identify aspects of teaching and learning situations that may enhance student motivation. The constructivist perspective is based on the theory of making connections between prior knowledge and context. This perspective creates meaning for the reader. The readers are active learners and must engage themselves by connecting personal knowledge and previous experience to new ideas or facts. This type of engagement has seemed to create meaning to the reader (Kowalewski, 2001).

One teaching strategy that has seemed to motivate students to read is the use of whole language in the classroom to teach reading. Whole language goes beyond skill development, and provides content that is meaningful in learning. This approach fosters authentic activities that create value in reading and writing. Students get more opportunities to engage in the reading process using this strategy (Kowalewski, 2001).

Another strategy that may be effective is students' ability to choose their reading material. Over 80% of children involved in a reading motivation study by Gambrell (1996) found that choosing books was related to effective high comprehension scores. The culture of a classroom should encourage and provide self-selection, along with modeling of strategies for reading comprehension, can lead to positive self-concept for the reader.

Many current theories recognize that social interaction creates reading motivation. Classroom discussions with peers, student book talks, and read-alouds are additional strategies that teachers can use to promote reading motivation for children. Gambrell (1996) stated that research shows these types of social literature interactions provide meaning to literacy context.

All students learn differently. Teachers need to find the right strategies to fit the diverse learning styles of each individual within the classroom setting. In order to achieve the skills necessary, such as student metacognition, thinking about one's own thinking, and motivation to read, the eight multiple intelligences need to be incorporated into everyday classroom learning. According to Gardner, the most important gifts educators can give students are the skills necessary for them to be independent learners (as cited in Laughlin, 1999).

Gardner, a psychologist and Professor at Harvard University's Graduate School of Education, claims all human beings have multiple intelligences to be nurtured and enhanced, or ignored and weakened. For the purpose of this research, intelligence is defined as the ability or set of abilities to allow a person to solve a problem or fashion a product that is valued in one or more cultures (Tapping into M.I., 1999). The eight multiple intelligences are as follows:

1. Verbal-Linguistic Intelligence-- words used effectively. These learners have strong auditory skills and think in words. These students enjoy reading, playing words games, or writing original poetry or stories.

2. Logical-Mathematical Intelligence -- ability to calculate, reason, and think abstractly. These students enjoy experimentation, solving puzzles, or asking "cosmic" questions.

3. Visual-Spatial Intelligence -- thinking in pictures and images and visualize in the abstract. These students enjoy drawing, jigsaw puzzles, reading maps, and may tend to daydream.

4. Musical Intelligence -- appreciate and show sensitivity to rhythm and sound. These students enjoy music and the sounds in their surrounding environment.

5. Bodily-Kinesthetic Intelligence -- using the body effectively and a keen sense of body awareness. These students enjoy movement, making things, and handling objects skillfully.

6. Intrapersonal Intelligence -- self-aware and in tune with inner feelings, values, beliefs, and thinking processes. These students tend to shy away from others and enjoy self-reflection, and privacy.

7. Interpersonal Intelligence -- ability to appropriately detect and respond to the moods, motivations and desires of others. These students tend to have many friends, and enjoy group activities and dialogue.

8. Naturalist Intelligence -- demonstrate and expertise in recognizing and categorizing plants, animals, and other objects in nature. These students enjoy their outside environment and enjoy categorizing new and unfamiliar organisms. (Lane, 1999)

The theory of multiple intelligences has appeared as a major strategy to improve students' achievement across the curriculum, including students with IEPs and lower achieving students (Geimer, Getz, Pochert, & Pullman, 2000).

Gardner suggested that specific functions come from different regions in the brain and the mind's problem solving capacities are multifaceted and can work independently or together. Students possess all intelligences in varying amounts, but that each student has different intellectual composition. By improving and identifying all intelligence strengths and weaknesses, the intelligences may actually define the human species (Tapping into M.I., 1999).

The benefits of considering the use of the multiple intelligences in the classroom can be defined in many ways. One may regard intellectual ability more broadly, parent and community involvement may increase, and students may be able to demonstrate and share their strengths. When educators teach for understanding, students benefit from more fulfilling and positive educational experience and create a higher self-worth and esteem. This may give students the capability to create solutions to problems in all aspects of life and become balanced individuals who can function successfully as

members of their culture (Thirteen ED line 1999). Educators used to focus on the negative and what students were unsuccessful in instead of focusing on optimizing learning power. By using the multiple intelligence theory this can be achieved.

The researchers of this action research project has dealt with a wide range of individual differences among students on a daily basis. Educators need to develop each student's talents early in life and apply the theory of multiple intelligences in ways appropriate for students, school, and community. There are a variety of ways to incorporate the intelligences in to the classroom setting. Educators may use multiple intelligences as entry points into the lesson, or engage all intelligences into their lessons. Reflection on the concept that teaching and identifying the intelligences within the classroom promotes self-directed learning. This prepares students for their adult lives by teaching them how to initiate and manage complex projects, how to ask researchable questions, identify varied resources, create realistic time lines, and bring closure to learning activities. The results will demonstrate higher-order thinking skills, generalize what students learn, provide examples, and connection of content to the student's personal experiences and application of knowledge to new situations. The theory of multiple intelligences does not suggest a complete overhaul of the curriculum, but provides a framework to follow for enhancing instruction and a language to describe one's efforts (Campbell, 1997).

Each person has unique cognitive abilities with long lasting effects on students experiencing success. As an education and researcher of this action project recognized that differences are built upon the child's ability to focus on their learning styles individually and can result in increased skill knowledge, thorough metacognition, and

more motivated students overall (Loria, 1999). The theory of multiple intelligences is not based on how smart a student is, but how the student is smart, and that each student possesses special strengths and talents that others may not. According to Gardner's work, intelligence is not fixed, it is not according to IQ as much as ability and skill, and each student can use, develop, and improve intelligence (Laughlin, 1999). Using all modalities in cooperative contexts can be optimal for most children, and the most powerful way for children to be successful is to focus on the connection between teacher expectations and student learning (Campbell, 1999). The Multiple Intelligence theory continues to stimulate the minds of teachers, psychologists, students and parents as how learning and education can be varied so that all persons can be successful (Lane, 1999).

Furthermore, effective reading instruction should involve metacognition. A simple definition of metacognotion is "thinking about thinking" (Livingston, 1997). However, a true definition of metacognition is much more complex. This is partly because many other terms have been used interchangeably with metacognition such as self regulation, executive control, and meta-memory. While there are some slight differences between the terms, all of them stress decision making processes and regulating the way one processes cognitive information.

One way that reading comprehension can be enhanced for students is through teaching metacognition techniques. When working with metacognition and reading comprehension, the more accurate term to use is metacomprehension. Fitzgerald (1983) wrote that "metacomprehension refers to readers' awareness and self-control of their understanding and of strategies that facilitate comprehension" (pg 249). Students who comprehend well know about different intentions for reading, regulate their own

knowledge to various reading tasks, examine their comprehension, and put into practice counteractive strategies when their own comprehension fails. However, poor readers may not be aware that they should check their comprehension because they do not possess the strategies to do that.

There are various guidelines to follow when teaching metacomprehension. First of all, the students choose the reading material to improve their own comprehension. Afterward, students should mirror modeling strategies good readers do to make sure that they understand what they are reading (Rance-Rooney, 2002). The reading material chosen should be slightly challenging. This is important because if the reading material is too easy, the students' comprehension would not improve or be challenged. The students should be able to predict what they think may happen and why they think that way. Reading together, focus on a sentence that has an unfamiliar word for a majority of students. The students should stop and reread the sentence again and come up with a prediction of the definition. If the students are unable to do this, by continuing to read, the unfamiliar word will probably make sense later. Furthermore, teachers should encourage students to take risks and guess if needed. This will benefit students because the students who guess are more likely to know the importance of making an effort to understand the text that is they may be more likely to use phonics strategies (Fitzgerald, 1983).

Growth of metacognition procedures can be recorded in journals. In journal writing, students can, in their own words, reflect on strategies used with comprehension, as well as, how much thought was put into each entry. The journaling can help teachers see where the students need to improve in reading comprehension and metacognition.

Since many students in the targeted fifth grade classroom were not motivated to meet or exceed expectations in reading comprehension, the researcher of this project had chosen to use district and state standardized test data, surveys, checklists, classroom assessments, and observations over a period of time to document student growth. The implementation of multiple intelligence strategies to raise reading comprehension achievement was used to motivate student thinking and aid in the students' ability to their own reading material, demonstrate a foundation of reading strategies, self-correct fluency, vocabulary, comprehension strategies, and use higher-order thinking skills to respond to open-ended questions.

Project Objectives and Processes

As a result of using multiple intelligence teaching strategies during the period from September 2002 through December 2002, the targeted fifth grade reading students will increase their reading achievement and use effective reading skills as measured by teacher observation, assessments, parent and student attitude surveys, checklists, and portfolios.

In order to accomplish the project objective, the following processes are necessary:

1. Design lesson plans using multiple intelligences.
2. Design assessments, surveys, and checklists to measure reading skill achievement.
3. Develop reading centers using multiple intelligences to provide student choice and stimulate student motivation.

Project Action Plan

I. Data collection (September)

   A. Conduct parent survey

   B. Conduct student attitude survey

C. Conduct student multiple intelligence survey

D. Pre-test students for reading placement (phonics, vocabulary, & comprehension)

E. Score pretest

II. Establish multiple intelligence reading center

A. Bulletin board and reading center

1. Introduce bulletin board

a. Establish file folders containing activities one file for each intelligence

b. Supply materials needed for students to complete activities

c. Model each intelligence

2. Implement use of bulletin board/reading center

a. Schedule groups for weekly sessions

b. Introduce rules for center use

c. Model practice and procedures for center use

III. Initial Intervention-weekly skill/strategy focus (September-December)

A. Introduction of themes in six week blocks (September-ongoing)

1. Pretest skills and strategies

2. Introduce and model skills and strategies (bi-weekly)

3. Guided practice of skills and strategies

4. Multiple intelligence activities (individual activities changed bi-weekly)

5. Posttest skills and strategies

6. Enter self chosen artifacts in portfolio

7. Reflect on understood skill (bi-weekly)

IV. Initiate student portfolio (October-ongoing)

A. Set up portfolio system

1. Provide storage/organized area

2. Demonstrate purpose for portfolio

3. Begin students' artifact collection through participation of multiple intelligence activities and scholastic growth

V. Assessments/evaluations (September-ongoing)

A. Diagnostic pretest (September)

B. Give weekly story evaluations

C. Give bi-weekly skill/strategy pretests and posttests

D. Multiple intelligence assessments (rubrics--bi-weekly)

E. Portfolio evaluation rubric

F. Final diagnostic posttest (same as pretest---December)

Methods of Assessment

In order to assess the effects of the intervention, assessments covering the content and skills for reading were given as developed by the district and basal series. In addition, portfolios of student work were kept throughout the intervention period to show student growth and mastery of material. Scoring rubrics were developed for multiple intelligence assessments as well as the portfolio evaluation. Parent and student attitude surveys and observation checklists were developed by the teacher researchers as part of the assessment process.

CHAPTER 4

PROJECT RESULTS

Historical Description of the Intervention

Students in targeted fifth grade classroom within the middle-to-low socio-economic Midwestern community exhibited a lack of reading comprehension and low academic achievement in core curriculum subjects. Evidence for existence of the problem included student surveys that provided an indication of students' choices and attitudes, assessments that indicated the level of students' academic performance, teacher observations and checklists.

The objective of this project involving targeted fifth grade reading students was to increase reading achievement and the use of effective reading skills. The intervention focused on lesson plans using multiple intelligences, assessments, surveys, and checklists to measure reading skill achievement, and reading centers using multiple intelligences. Pretests and posttests were given with each selected skill and story.

The data collection and intervention strategies began in September of 2002, ending in December of 2002. Parent surveys, student attitude survey, student multiple intelligence survey, and pretests for phonics skills and comprehension were given. The multiple intelligences reading center was introduced. File folders containing reading activities for each intelligence were compiled. Supply materials for students to complete activities were given. Each multiple intelligence, rules, and procedures for center usage were modeled and explained in detail.

Multiple intelligence activities consisted of written responses, role playing, song writing and recording, partner reading and recording of story or song, map making, character sketches, game making, speeches, debates and internet research. All activities were directly correlated with the basal reading series. Students were directed to focus on the intelligence on which they scored highest on the survey.

The six basal series stories and related skills were introduced and reinforced in two-week segments, beginning with a pretest and ending with a posttest. The first assessment used a Pretest and a Diagnostic Reading Test. Students were assigned to read Mick Harte silently, and the next day a comprehension pretest and an Inference pretest were given. During the next two weeks the skills, and strategies were introduced and modeled. One to one and one-half hours per day were designated for guided practice and students selected multiple intelligence activities. Students collected artifacts in their portfolios filed and stored in a designated area. Portfolios were evaluated every two weeks according to a rubric. Mick Harte comprehension and inferences posttests were administered and results were recorded. Roberto Clemente and drawing conclusions pretests were given in the third week. Drawing conclusions and multiple intelligence activities were completed in two weeks. Posttests were administered and results recorded. Teacher observation checklist of reading skills was on going. The checklist included students engaged in activities detailing oral and written answers and task completion of the multiple intelligence activities.

Boonesville Bombers and compare/contrast pretests were given in the sixth week. Compare/contrast and multiple intelligence activities were completed in two weeks. Comprehension and compare/contrast posttests were administered and results recorded.

Iditarod Dream and sequencing pretests were given in the eighth week. Sequencing and multiple intelligence activities were completed in two weeks. Comprehension and sequencing posttests were administered and results were recorded. Summer of Fire and cause/effect skills pretests were given in the eighth week. Cause/effect and multiple intelligences activities were completed in two weeks. Comprehension and cause/effect posttests were administered and results were recorded. Earthquake Terror and reference sources pretest were given in the tenth week. Reference sources and multiple intelligences activities were completed in two weeks. Comprehension and reference sources posttests were administered and results were recorded.

Assessments covering the content and skills for reading were developed by the district and the required basal series. The stories and skills were part of our reading series. The multiple intelligence activities were developed by the teacher researcher and were incorporated with the basal series. The final diagnostic posttest was administered in December. All portfolios, with student reflections were completed and graded. Final evaluation on observation checklist was documented and ended in December of 2002.

Presentation and Analysis of Results

The data were gathered through observations, assessments, parent and student surveys, pretests, posttests, and phonics skills. The results appeared to have had a positive effect on increasing comprehension and phonics scores of the students.

In order to assess the effects of multiple intelligence activities on reading comprehension are presented in Table 1. The data were recorded from September through December of 2002.

Table 1

Mean Scores of Fifth Graders on the Reading Comprehension Story Pretests and Posttests

Lesson	Pretest	Posttest	Difference
Lesson 1	77	86	+9
Lesson 2	78	86	+8
Lesson 3	60	80	+21
Lesson 4	78	97	+19
Lesson 5	67	80	+13
Lesson 6	90	92	+2
Diagnostic Test	70	79	+9

The intervention appears to have had a positive effect on improving students' reading comprehension story skills. Of particular, note all posttests showed a score increase. This success was attributed to multiple intelligence activities, reading each story silently, then with a partner, listening to the story on tape, and rereading with the teacher in a whole group guided discussion.

Students thoroughly enjoyed the multiple intelligence activities and they often asked what day of the week would we work with the center.

In order to assess the effects of this intervention on reading comprehension skills pretests and posttests are presented in Table 2.

Table 2

Mean Scores of Fifth Graders on the Reading Comprehension Phonics Skills Pretests and Posttests

Lesson	Pretest	Posttest	Difference
Lesson 1	75	85	+10
Lesson 2	90	97	+7
Lesson 3	64	74	+10
Lesson 4	97	99	+2
Lesson 5	96	98	+2
Lesson 6	67	74	+7

The intervention appeared to have a positive effect on improving reading comprehension phonics skills. Of particular note, all posttests showed a modest score increase. The skills were presented with transparencies, worksheets, in the multiple intelligence activities, and in whole group instruction.

The intervention showed 80-90% mean scores of the bi-weekly teacher observation checklist of reading skills of targeted fifth graders. The results are presented in Table 3.

Table 3

Mean scores of Observation of Reading Skills of Fifth Graders

Engaged	90%
Detailed Answers (oral)	85%
Detailed Answers (written)	82%
Task Completion	88%

These data were higher than expected due to the interest and motivation of the students. They enjoyed working at the multiple intelligence center because they were able to choose their activities instead of one specific activity assigned by the teacher. Organizational skills improved due to the fact that students collected their own assignments and stored them in a portfolio in a designated area in the classroom.

Conclusions and Recommendations

Based on the presentation and analysis of the data as supported in Tables 1 and 2, students showed a slight improvement in reading achievement when using multiple intelligence activities. The multiple intelligence activities and phonics skill strategies showed consistent weekly improvements. Students were always very anxious to begin working on the activities, which occurred biweekly, after the direct teaching of the story and skill had been completed. Students seem to be more engaging in self-selecting independent reading. Improved fluency, vocabulary comprehension and writing strategies have contributed to students' reading achievement.

The students were all actively engaged in the completion of the multiple intelligence activities. One problem seemed to be that students tended to choose the "fun" activities, such as make a game, write a song, and illustrate a brochure. Students opened the labeled folders and read the activity to see if it appealed to them. If they did not want to do it, they progressed to the next multiple intelligence folder. They pursued easier activities, regardless if it was geared toward their intelligence, determined from the multiple intelligence survey.

This researcher will continue using multiple intelligence activities to improve reading achievement next year. As a researcher, I would recommend intense teacher direction in students' selection of activities to avoid the problem of students choosing "fun" activities instead of those involving research and writing. The researcher also recommends that each student's file folder includes a list of four or five of their determined multiple intelligence activities. This list would remind students and assist the teacher in guiding the student to the appropriate intelligence, so the students could best work to their potential.

In conclusion, the multiple intelligences met the needs of most students. Students enjoyed the activities, and their reading scores consistently improved from pretests to posttests. Reading achievement can be improved with the use of multiple intelligence activities.

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